What Every Member of the Trade Community Should Know About:

Classification of Molds and Their Parts Under the HTSUS

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NOTICE:

This publication is intended to provide guidance and information to the trade community. It reflects the Customs Service's position on or interpretation of the applicable laws or regulations as of the date of publication, which is shown on the front cover. It does not in any way replace or supersede those laws or regulations. Only the latest official version of the laws or regulations is authoritative.

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PREFACE

On December 8, 1993, Title VI of the North American Free Trade Agreement Implementation Act (Pub. L. 103-182, 107 Stat. 2057), also known as the Customs Modernization or "Mod" Act, became effective. These provisions amended many sections of the Tariff Act of 1930 and related laws.

Two new concepts that emerge from the Mod Act are "***informed compliance***" and "***shared responsibility***," which are premised on the idea that in order to maximize voluntary compliance with Customs laws and regulations, the trade community needs to be clearly and completely informed of its legal obligations. Accordingly, the Mod Act imposes a greater obligation on Customs to provide the public with improved information concerning the trade community's rights and responsibilities under the Customs and related laws. In addition, both the trade and Customs share responsibility for carrying out these requirements. For example, under Section 484 of the Tariff Act as amended (19 U.S.C. §1484), the importer of record is responsible for using reasonable care to enter, classify and determine the value of imported merchandise and to provide any other information necessary to enable Customs to properly assess duties, collect accurate statistics, and determine whether other applicable legal requirements, if any, have been met. The Customs Service is then responsible for fixing the final classification and value of the merchandise. An importer of record's failure to exercise reasonable care could delay release of the merchandise and, in some cases, could result in the imposition of penalties.

The Office of Regulations and Rulings has been given a major role in meeting Customs informed compliance responsibilities. In order to provide information to the public, Customs has issued a series of informed compliance publications, and videos, on new or revised Customs requirements, regulations or procedures, and a variety of classification and valuation issues.

The National Commodity Specialist Division of the Office of Regulations and Rulings has prepared this publication on ***Classification of Molds and Their Parts Under the HTSUS*** as part of a series of informed compliance publications regarding the classification and origin of imported merchandise. We sincerely hope that this material, together with seminars and increased access to Customs rulings, will help the trade community to improve, as smoothly as possible, voluntary compliance with Customs laws.

The material in this publication is provided for general information purposes only. Because many complicated factors can be involved in customs issues, an importer may wish to obtain a ruling under Customs Regulations, 19 CFR Part 177, or to obtain advice from an expert who specializes in customs matters, for example, a licensed customs broker, attorney or consultant. Reliance solely on the information in this pamphlet may not be considered reasonable care.

Comments and suggestions are welcomed and should be addressed to the Assistant Commissioner at the Office of Regulations and Rulings, U.S. Customs Service, 1300 Pennsylvania Avenue, NW, Washington, D.C. 20229.

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General Information

When goods are imported into the Customs Territory of the United States (the fifty states, the District of Columbia and Puerto Rico), they are subject to certain formalities involving the U.S. Customs Service. In almost all cases, the goods are required to be "entered," that is, declared to the Customs Service, and are subject to detention and examination by Customs officers to insure compliance with all laws and regulations enforced or administered by the United States Customs Service. As part of the entry process, goods must be "classified" (determined where in the U.S. tariff system they fall) and their value must be determined. Pursuant to the Customs Modernization Act, it is now the responsibility of the importer of record to use "reasonable care" to "enter," "classify" and "value" the goods and provide any other information necessary to enable the Customs Service to properly assess duties, collect accurate statistics, and determine whether all other applicable legal requirements are met.

Classifying goods is important not only for duty purposes, but also for determining whether the goods are subject to quotas, restraints, anti-dumping or countervailing duties, embargoes or other restrictions. The act of classifying goods is complex and requires an importer to be familiar with the *Harmonized Tariff Schedule of the United States* (HTSUS), its 99 chapters, rules of interpretation, and notes. A detailed discussion of the HTSUS may be found in a companion publication entitled, *What Every Member of the Trade Community Should Know About Tariff Classification.* Customs valuation requirements are separately discussed in a companion publication entitled, *What Every Member of the Trade Community Should Know About Customs Value.* Both of these publications are available from the Customs World Wide Web pages on the Internet (see the Additional Information section for information on accessing these sources and obtaining additional Customs Service publications).

The purpose of this publication is to assist importers in classifying molds under the HTSUS.

Introduction to the Classification of Molds

Molds are indispensable. From the bottle containing a consumer's favorite beverage to the most sophisticated components in the latest jet aircraft, molds are involved in the manufacture of products that are essential in every person's life.

The Random House Dictionary of the English Language (1973 Ed.) provides the following definition of a mold (as commonly defined). – "1. A hollow form or matrix for giving a particular shape to something in a molten or plastic state. 2. That on or about which something is formed or made." Customs Headquarters ("HQ") went on to state in HQ ruling letter #544147 dated July 5, 1988 that "a mold is ordinarily perceived as the item which gives final shape and form to the manufactured article.". This definition, however, is too simplistic for tariff classification purposes. Molds range from simple single cavity/small-volume use types to complex multi-cavity/large–volume use types.

Some may incorporate heating elements or features that allow for the changing of the mold's size. They can operate by methods such as injection, compression or gravity. Molds can be used by hand or in machinery such as injection molding machines.

As molds vary greatly in use, size, value and material of composition, so too do the Harmonized Tariff Schedule of the United States ("HTSUS") provisions vary. Molds cannot be relegated to one catch-all HTSUS provision. Specific provisions have been created to encompass the wide variety of molds that exist.

Heading 8480, HTSUS, provides as follows:

8480		Molding boxes for metal foundry; mold bases; molding patterns; molds for metal (other than ingot molds), metal carbides, glass, mineral materials, rubber or plastics:
8480.10.00	00	Molding boxes for metal foundry
8480.20.00	00	Mold bases
8480.30.00	00	Molding patterns.
		Molds for metal or metal carbides:
8480.41.00	00	Injection or compression types
8480.49.00	00	Other types
8480.50.00		Molds for glass
	10	Injection or compression types
	90	Other types
8480.60.00		Molds for mineral materials
	10	Injection or compression types.
	90	Other types
		Molds for rubber or plastics:
8480.71		Injection or compression types:
8480.71.10	00	For shoe machinery
8480.71.40	00	For the manufacture of semiconductor devices
8480.71.80		Other
	20	Temporarily imported for testing, calibration, examination, repair or alteration; returned after being exported for testing, calibration, examination, repair or alteration
		Other:
	45	Injection type.
	60	Compression type.
8480.79		Other types:
8480.79.10	00	Molds for shoe machinery

8480.79.90		Other
	10	Blow molds
	20	Bladder operated molds
	90	Other molds

The following information will provide the reader with some basic guidelines for classifying molds. It ranges from general to specific information that may prove helpful when faced with the task of determining which HTSUS provision is to be applied to a particular mold. It should be noted however that this list is not all-inclusive. Other material such as Office of Regulations and Rulings Headquarters ("HQ") and New York ("NY") Customs ruling letters ("RL"), court decisions and product specific material (e.g., schematics, drawings, invoices, etc.) should also be used in conjunction with the tools cited below to arrive at the proper classification.

Classification Tools

***Harmonized Tariff Schedule of the United States* ("HTSUS") –** For legal purposes, molds, as with all imported merchandise, are to be classified in accordance with the terms of the headings of the HTSUS, any relative section and chapter notes and, provided such headings or notes do not otherwise require, in accordance with the General Rules of Interpretation ("GRIs") taken in order.

***Harmonized Commodity Description and Coding System Explanatory Notes* (ENs or *Explanatory Notes*)[1] –** These notes are the official interpretation of the Harmonized System (HS) at the international level. The ENs are not dispositive nor are they legally binding, however, they do provide commentary on the scope of each heading of the Harmonized System. [See T.D. 89-80, published in the *Federal Register* August 23, 1989 (54 FR 35127, 35128)]

In addition to the Informed Compliance Publication ("ICP") entitled **"***What Every Member of the Trade Community Should Know About: Tariff Classification,*" readers should also consult the ***Production Equipment Trade Educator ("PETE")*** (Volume 98, Issue 1, February 1998 and Volume 2, Issue 2, November 1999) for additional aid in classifying molds**.** Both of these are available on the Customs web site: http://www.customs.gov.

[1] The *Harmonized Commodity Description and Coding System Explanatory Notes - Second Edition* is © 1996 Customs Co-operation Council (working name: World Customs Organization (WCO)), Rue du Marché, B-1210 Brussels, Belgium.

Invoicing

An invoice must contain complete and accurate information in order for the merchandise to be properly classified. Description cannot consist merely of one word, e.g., mold. The reader is advised to consult section 141.86, Customs Regulations, for general invoicing requirements. In addition, invoices for molds should state the mold's material of composition (e.g., metal, ceramic, etc.), type of molding process used with the mold (e.g., injection, compression, etc.), molding material to be used with the mold (e.g., metal, plastics, etc.) and the article to be produced with the use of said mold.

Exclusions

All relevant section and chapter notes must be considered before the proper classification of the mold in question can be determined. In the interest of brevity, this paper will deal only with the exclusionary notes that figure in the classification of molds.

Excluded By Virtue of Material of Composition

An important factor to consider when classifying a mold is the mold's material of composition. A mold's material of composition often depends upon the application for which it will be used. Molds of ceramics, glass, graphite (or other carbon) or certain types of rubber are classified according to their constituent material. These molds are specifically precluded from classification in heading 8480, HTSUS, by virtue of the exclusionary language found in the legal notes to section XVI and chapter 84.

Graphite or Carbon Molds – **Chapter 68, HTSUS**
[See note 1(a) to chapter 84]

Ceramic Molds – **Chapter 69, HTSUS**
[See note 1(b) to chapter 84]

Glass Molds – **Chapter 70, HTSUS**
[See note 1(c) to chapter 84]

Rubber Molds – **Heading 4016, HTSUS**
In accordance with note 1 (a) to section XVI, rubber molds are excluded from classification in heading 8480, HTSUS, if of vulcanized rubber other than hard rubber. However, not all types of rubber are rubber for tariff purposes, for example, silicone is often called silicone rubber, but is a plastic for tariff purposes. Type of rubber would have to be established in order to determine the proper classification.
[See note 1(a) to section XVI; ENs note (9) to section VII, heading 40.16, HS]

Precluded from Classification in Heading 8480, by Virtue of ENs' Exclusionary Language

Molds specifically precluded from classification in heading 8480, by virtue of the exclusionary language found in the ENs to heading 84.80, are:

Flongs, matrices and linotype molds – Heading 8442, HTSUS
(Only the letterpress molds that cast separate characters, spaces, leads, etc. for stereotype printing blocks, and mold backings on the electrotype plates are classified in heading 8480, HTSUS.)

Forms used in a manufacturing process whereby articles are produced by dipping the form into material – Classified According to Constituent Material.
Examples:
Molded Pulp Products – Mold/form in shape of the article to be produced is dipped into a vat of pulp. Mold is held in pulp for specified amount of time to allow the fibers from the pulp slurry to adhere to the mold. Pulp is pressed onto the mold by either pressure applied to the slurry or a vacuum behind the mold. The finished product is then removed and dried. Products produced by this method include packing for eggs and plates for confectionery.

Other articles produced by the dip process include gloves.

Ingot Molds – Subheading 8454.20.00, HTSUS
Molds of this type are usually made of steel or iron. However, graphite, carbon or ceramic varieties are also available (chapters 68 and 69, HTSUS, applicable – see exclusions by virtue of material of composition listed above). Shape of the mold depends upon the shape (e.g., ingots or slabs.) into which the molten metal will be provisionally cast. Molds may be of a one-piece variety or come in two halves.

Continuous Casting Molds – Subheading 8454.90.00, HTSUS
Example:
Copper mold tubes which are fixed size molds used in continuous casting operations. It should be noted that the language of the ENs to heading 84.80 states that the heading does include molds which produce blanks or finished articles. The continuous casting process, in which these copper mold tubes are used, produces semifinished products. Thus heading 8480 is not applicable. The copper mold tubes are classified as parts of the casting machines in subheading 8454.90.00.
(See HQRL 952743 February 16, 1993)

(Also see HQRL 953268 February 16, 1993; HQRL 955700 December 8, 1994; NYRL 812234 July 18, 1995)

Matrices and masters for the production of records – Heading 8524, **HTSUS**

Stamping dies – **Heading 8207, HTSUS**
With stamping dies, molding material is shaped solely by means of a powerful blow or compression. In addition, the molding material is not retained in the die until it sets into a predetermined shape.

Excluded By Virtue of Material Being Worked On

When classifying a mold (i.e., either a separately imported mold or an excess/spare mold), all the above mentioned exclusions must be taken into consideration. (See section below on "Excess/Spare Molds" for discussion of a mold imported together with the machine with which it will be used.) Assuming the mold is not excluded by virtue of any of the above exclusions, one must then consider the principle use of the machine in which the mold will be used. The machine must be of a type for use solely or principally with a material mentioned in the provisions of heading 8480, HTSUS, i.e., metal, glass, minerals, rubber or plastics. This principal also holds true for a mold used manually, i.e., material being worked on determines whether or not the mold can be classified in heading 8480, HTSUS. Molds excluded from heading 8480, HTSUS, by virtue of exclusionary language to heading 8480, HTSUS, but not excluded from section XVI by virtue of any section XVI or chapter 84 notes are to be classified in accordance with note 2(b) to section XVI. If the mold is to be used on a machine which processes a material other than those enumerated in heading 8480, HTSUS, e.g., wax, the mold is to be classified as a part of the machine in which it will be used.

Examples:
Molds for Wax - Heading 8479, HTSUS
Also known as "wax pattern dies" are used on a wax injection machine. These machines employ a molding method known as "investment casting" (a.k.a. the "lost wax process"). These molds are not classified under heading 8480, HTSUS, as wax is not one of the materials mentioned in that heading.
(See HQRL 957678 July 18, 1995; HQRL 957375 April 19,1995.)

Molds Used in Industrial Preparation or Manufacture of Food – Heading 8438 HTSUS
Molds used in continuous process bread-making
Molds for confectionery molding machines
Molds for chocolate molding machines
Molds for use in pasta making machines
(See NYRL E80832 April 22, 1999)

Molds Used in Pharmaceutical Production – Heading 8479, HTSUS
Molds for use in pharmaceutical tabletting press classified in subheading 8479.90, HTSUS.

Confusing Terminology

At times, merchandise described as a "mold" is not a mold for purposes of heading 8480, HTSUS. The most obvious examples are molds for the manufacture of penicillin and other antibiotics which are classified in heading 3002, HTSUS.

Other examples:

Button Molds – **Heading 9606, HTSUS**
A button mold is the interior part of certain types of buttons. These molds are designed to be covered with another material such as leather.

Dies (a.k.a. "molds")
In order for a die to be classified as a mold, the die must retain the material until shape has been set. It cannot shape the material solely by means of a powerful blow or compression such as stamping out sheet-metal goods. In addition, it must not be for the extrusion of molding material. If the die in question does not fall within these parameters, it cannot be classified in heading 8480, HTSUS.

Examples:

Die Casting Dies (a.k.a. molds) – Subheadings 8480.41, HTSUS or 8480.49, HTSUS (Classification dependant upon type, i.e., injection, compression or other)
A die casting die (mold) generally consists of a fixed die half mounted on the side toward the metal injection system and an ejector or movable die half which is mounted on the movable platen. Fixed and movable cores are often used in these types of dies.

Dies for Animal Feed Pellets – Heading 8436, HTSUS
Loose animal feed is compressed and pushed through the dies in order to produce pellets.
(See HQ 961408 November 24, 1998)

Extrusion Dies Used to Extrude PVC Products - Subheading 8477.90, HTSUS
(See NYRL C84912 March 12, 1998)

Metal Molds – **Heading 8207, HTSUS**
Dies used to die-stamp metal components
(See NYRL 875624 July 23, 1992)

Pancake Molds – **Heading 7615, HTSUS**
Nonstick, cast aluminum, pancake molds that can also be used as cookie cutters (See NYRL A80304 February 20, 1996)

Plastic Moldings for Automobile – Heading 8708, HTSUS
Shipments of these moldings are often misclassified as molds.

Other Issues

Antiques

Molds exceeding 100 years of age

Example:
Molds used in the production of hand cast toy soldiers and miniatures and which have been verified to exceed 100 years of age are classified in heading 9706, HTSUS.

Condition as Imported

The physical state of a mold in its imported condition should also be considered.

Blanks
Blanks is a term which refers to articles that while not ready for direct use have been worked to the point where the article has the approximate shape of the finished article. While unfinished, the article does possess the essential character of the finished article. In the case of an unfinished mold, providing the unfinished mold has the essential shape or outline of the finished mold, the unfinished mold would be classified as a mold.
[See ENs, GRI (2)(a)(II)]

Forged Alloy Steel Blocks
After importation, these blocks are cut to size and undergo various machining operations in order to produce finished molds. These blocks do not have the essential shape or outline of the mold at time of importation.

Example:
Forged alloy steel blocks classified in heading 7228, HTSUS
(See NYRL E85616 September 14, 1999; NYRL E85617 September 14, 1999)

Excess/Spare Molds

When classifying a shipment consisting of a molding machine shipped together with a number of molds of varying sizes/dimensions, particular attention must be paid to GRI 2. In this case, the molds are to be classified in accordance with GRI 2(a). One must first determine how many molds are necessary for the operation of the machine. A small machine may only have the capability of producing one article at a time, thus

only one mold is used. A large production machine may have the capability of producing multiple articles simultaneously, e.g., machine is capable of using six molds at one time. When shipped together with the machine with which it will be used, the specific number of molds required for the operation of the machine is classified together with the machine under the HTSUS subheading applicable for the machine itself. Excess/spare molds are classified in their respective headings. [See ENs, GRI 2(a)(VII)]

Example:
Importation consists of one blow molding machine for production of plastic bottles for carbonated drinks and three different molds which vary in shape and capacity. Molds must be changed each time a different shaped bottle is produced. The three molds cannot be used simultaneously. Machine and one mold only classified in subheading 8477.30.0000, HTSUS, which provides for blow-molding machines for the production of plastic products. Balance of two molds classified in subheading 8480.79.9010, HTSUS.

Lens Mold

When classifying molds used in the production of spectacle (a.k.a. “eyeglass”) or contact lenses, a determination must be made as to the type of lens involved – glass or plastic. Molds used in the production of glass lenses are classified in subheading 8480.50.00, HTSUS, while molds used in the production of plastic lenses are classified in subheading 8480.71 or 8480.79, HTSUS, (depending upon the molding process used, e.g., injection, compression, etc.).

A contact lens mold which, in its imported condition, consists of a plastic mold containing a dry contact lens that will be subject to further processing and manufacturing operations in the United States, is subject to classification in two separate HTSUS headings. The essential function of the mold is to retain the unfinished dry contact lens (also a plastic material) in a predetermined shape and hold it in place until it is hydrated at the U.S. manufacturing facility. Only the mold is classified in subheading 8480.79.9090, HTSUS. The dry contact lens is not part of the mold but rather a separate entity in and of itself. The lens is separately classified in subheading 9001.30.0000, HTSUS.

Preliminary Tabletting Molds

Heading 8480 also includes preliminary tabletting molds that form molding powders into tablets which will be subsequently sent for final molding into the desired article. Care should be taken in identifying the specific powder being used in the process to ensure that the powder is of a material encompassed by heading 8480, HTSUS. In addition, one must distinguish between preliminary tabletting molds and tabletting molds that produce an article in its final form, e.g., molds for pharmaceutical tablets.

Sets Containing Molds

Many times, a group of items will be imported as a "set". In some instances, the "set" contains one or several molds. Assuming the group of items meets the requirements set forth in GRI 3(b) for "goods put up in sets for retail sale" [i.e., (1) consist of at least two different articles which are classifiable in different headings, (2) consist of articles put up together to meet a particular need or carry out a specific activity and (3) are put up in a manner suitable for sale directly to users without repacking], the group of items is classified according to the article which imparts the essential character to the set.
(See ICP entitled *"What Every Member of the Trade Community Should Know About: Classification of Sets"* for further information on sets.)

Examples:
Cable Splicing Kit - heading 3909, HTSUS
Essential character of this set consisting of thermoplastic mold, plastic sealing tape and casting resin imparted by the polyurethane casting resin.
(See HQRL 083431 November 13, 1989)

Classification of Sets as Educational Toys under heading 9503, HTSUS
The individual set of articles, i.e., ball molds, ball powder and a water dropper, for the production of balls, when imported retail packed, are considered educational toys for tariff classification purposes.
(See PDRL D89144 April 9, 1999)

The individual set of articles, i.e., plastic molds, measuring cup, wire whisk, mixing spoon, bases, plastic dessert sticks and instructions for the preparation of dessert, when imported retail packed, are considered educational toys for tariff classification purposes.
(See NYRL D83618 November 9, 1998)

Terms Commonly Used In Molding Industry

Readers are advised to familiarize themselves with the terminology used in the casting and molding industries. A working knowledge of the terms is essential in order to classify molds correctly. Following is a list of some of the basic terms used:

Bottom Board (a.k.a. Bottom Plate) – See Flask.

Cavity - depression into which molding material flows. The cavity gives the external shape to the article being produced.

Casting – a metal article conforming to the shape of a mold's cavity(ies). The article is formed by a process of pouring or injecting liquid metal into a mold. See Processes/Casting.

Cheek – See Flask.

Cope – the outer portion of a mold. See Flask.

Drag – the bottom section of a flask. See Flask.

Flash – a thin piece of excess molding material. This can be found around air vents or separation lines.

Flask – frame of steel or wood which is used to hold molding sand around pattern. A flask is generally made of two sections – drag section/lower half and cope section/upper half. At times, a third section is added between the cope and the drag sections. This third section is called the cheek section. The bottom of the flask is called the bottom board or plate.

Gate – opening at end of runner (See runner).

Mold (a.k.a. Moulds) – a cavity into which a molding material is poured or injected in order to shape it into a desired shape. Among the various types of molds are:

> **Dry–sand mold** - sand mold that is dried prior to being filled with the molding material (generally liquid metal).
>
> **Green-sand mold** – sand mold that is not dried prior to being filled with the molding material (generally liquid metal). This type of mold is composed of moist molding sand.
>
> **Permanent mold** – mold used repetitively for the production of multiple articles of the same shape/specifications.

Plunger – ram which forces molding material into die.

Processes, Molding – also see **Production Equipment Trade Educator**, Vol. 2, Issue 2, Page 2 on the Customs web site. The following is not meant to be an all-inclusive listing of the methods used in the molding industry. Rather it is a random sampling to demonstrate the variety of methods available to the industry.

> **Blow Molding –** Process involves the injection of air or gas into a parison (a.k.a. "rough blank") in order to expand the parison. This expansion forces the material against the sides of the mold, thus forming a hollow article having a desired shape (e.g., bottle).
>
> **Casting –**
> The basic difference between casting and molding lies in the type of molding material used in the process. Casting generally uses molten material while

molding processes generally use materials in granular or powder form. Examples of the various types of casting processes available are:

Centrifugal - Process involves the use of a rotating cylindrical mold. The molding material is thrown against the walls of the mold by centrifugal force and as it solidifies, the material takes on the desired shape.

Continuous – Process involves the use of an ingot mold. The process is continuous in that it does not cease after a pre-determined length of time. The solidified ingot is continually sheared and removed as soon as it is cast. The process differs from static ingot casting in that molding material is continuously being added as the material at the other end solidifies. In the static casting process, an appropriate amount of material is generally introduced into the mold only at the beginning of the process. No new material is added as the material solidifies into the desired shape.

Other casting processes include casting under pressure, casting to shape (in addition to centrifugal, this category also includes sand, permanent-mold and die) and zero gravity casting.

Compression - Molding material is loaded into a mold cavity. The heat and pressure applied in the closed mold cause the material to conform to the shape of the mold's cavity. Plastic is hardened into its final state as a result of an internal chemical reaction. Compression molding is generally used for processing thermosetting material.

Dip – Mold in shape of the article to be produced is dipped into a vat of molding material, e.g., pulp. Mold is held in molding material for specified amount of time to allow the material to adhere to the mold. Molding material is pressed onto the mold by either pressure applied to the material or by vacuum behind the mold. The finished product is then removed and dried.

Extrusion – Softened-molding material is forced through a die, thus producing the desired shape. Products made by the extrusion process include pipes and tubing.
Extrusion processes include:

Blown Film Extrusion – air pressure is applied to a tube of plastic as it is being extruded in order to produce a thin gauge plastics film.

Injection – Molding material is injected into a cold mold where it solidifies and takes the shape of the mold cavity(ies).

Investment – See Lost Wax.

Lost-wax – Wax is injected into a metal form to create a pattern with the specifications of the desired article. The solidified wax pattern (a.k.a.

"investment") is removed from the metal form and repeatedly dipped in ceramic slurry. It is subsequently coated with sand until a hard shell or mold is formed. The next step involves heating the mold. This allows the wax to melt. After the melted wax is drained out, molten metal is poured into the space vacated by the wax. After cooling, the mold is removed leaving behind the metal which has hardened into the desired shape.

Metal Injection – Metal injection molding is a combination of the thermoplastic injection molding process and the powder metallurgy process whereby material is shaped by means of injection type molds.

Rotational – Molding material (powder or liquid) is placed in a mold which rotates continuously about its axes to uniformly coat the inner surface of the mold. The rotating mold first passes through a heated oven where the plastic is fused and then through a cooling chamber. Hollow molded article, such as a hollow ball, is removed after cooling operation. When liquid material is used, process is often referred to as "slush molding". It should be noted that slush molding not limited to the production of footwear (See E. Dillingham, Inc. v United States, C.D. 4082).

Slush – See Rotational

Thermoforming – Thermoforming is the forming of an article from a sheet of plastics by the application of heat and pressure or vacuum. Pressure forces the molding material (softened by the heat) into the mold thus producing the desired shape. Vacuum molding is the forming of an article from a sheet of plastics by application of heat and vacuum. As the air between the sheet and the mold is evacuated, the sheet is pressed against the mold face thus producing the desired shape.

Transfer – See Compression
Transfer molding is similar to the compression molding process. However, unlike the compression process in which the mold itself is heated, in transfer molding the molding material first goes to a separate preheating chamber. When the material has reached the appropriate fluidized state, it is transferred under heat and pressure into a closed mold. Transfer molding is generally used for processing thermosetting material.
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Riser (a.k.a. feeder or feeder head) – feeds liquid metal to the casting to compensate for shrinkage of the liquid metal that is occurring as it cools and solidifies**.**

Runner – channel cut into one or both halves of the mold along which molding material runs into the mold's cavity(ies).

Thermoplastic – plastics material that requires heat to make it conform to a desired shape. A thermoplastic differs from a thermoset in that it can be reheated and reformed

numerous times, thus enabling scrap to be reclaimed and reprocessed. Examples include PVC and polystyrene.

Thermoset – plastics material that requires heat to make it conform to a desired permanent shape. A thermoset differs from a thermoplastic in that once the shape is set, the material generally cannot be remelted or reformed. Examples include phenolics and ureas.

Discussion of Specific Tariff Provisions

Assuming a mold under consideration has not been excluded from heading 8480, HTSUS, by virtue of any of the above mentioned notes, the mold is classified in accordance with the terms of heading 8480, HTSUS. Heading 8480, HTSUS, includes molds which are electrically or otherwise heated. The ENs to heading 84.80 state that the heading encompasses all molds (subject to the above-mentioned exclusions) provided the molds are used in the production (either manual or mechanical) of blanks or finished articles. Molds may operate by means such as gravity, injection or compression.

Molding Boxes for Metal Foundry – Subheading 8480.10, HTSUS

Molding boxes for metal foundries are round or rectangular frames. Sand molds are formed in molding boxes by packing a mixture of sand and clay around a pattern. They can have features such as hinged sections or removable ends which facilitate the removal of molds from the boxes. The boxes are usually manufactured from cast iron or steel.

Mold Bases – Subheading 8480.20, HTSUS

A mold base is a plate physically located on the bottom of a mold.

Molding Patterns – Subheading 8480.30, HTSUS

This subheading encompasses items such as patterns and core boxes to be used in the preparation of sand molds.

Examples:
Patterns are models made of either wood, metal or some other easily worked material. A pattern is shaped to the same configuration as the desired casting. The moistened sand/clay mixture is firmly packed over the face of the pattern to form the desired cavity. When the pattern is removed, a cavity is left in the sand. The result of this operation is an actual production mold. Molten metal is subsequently poured into the cavity which has been molded to the desired shape of the pattern. When solidified, the sand mold is broken and the casting removed.

Core boxes are molds used for the production of sand cores. The core-boxes are hardened steel complete with ejector plates and pins. These boxes are generally fitted onto sand injection machines that are fired with gas to cure the sand cores. After the sand is baked, the cores are used to create openings and various shaped cavities in a casting.

Molds for Metal or Metal Carbides – Subheadings 8480.41, HTSUS and 8480.49, HTSUS

Examples:
Die Cast Dies
As noted previously, in order for a die to be classified as a mold, the die must retain the material until shape has been set. It cannot shape the material solely by means of a powerful blow or compression such as stamping out sheet-metal goods. In addition, it must not be for the extrusion of molding material. Assuming the die meets all of the above requirements, it is classified in heading 8480.

"Squeeze Casting" Mold
Mold used in a "squeeze casting" process is considered to be an injection or compression type of mold. Molds of this type are used to produce articles such as aluminum automotive parts.
(See NYRL A86776 September 3, 1996)

Molds for Glass – Subheading 8480.50, HTSUS

Example:
A blank mold is used in a process where an individual molten glass gob is dropped into the blank mold. Once in the blank mold, the gob takes a rough shape (a.k.a. "parison" or "rough blank") of the article to be produced, e.g., a glass bottle. After the desired features have been formed, the article is passed to the blow mold where the article is blown to final form. Both the blank mold and the blow mold in this instance are classified in subheading 8480.50.00, HTSUS. However, care should be taken in identifying the specific material being used in the process to ensure that the mold is used solely or principally with a glass material. If the blow mold is for use with a plastic material, the blow mold is classified in subheading 8480.79.9010, HTSUS.

Molds for Mineral Materials – Subheading 8480.60, HTSUS

Examples:
Molds used to mold concrete into pre-determined structural shapes may also be referred to as **"forms" or "formwork"**. These forms are usually used to shape concrete in the construction industry, e.g., for walls, ceilings and pillars. They can also be used to form cylindrical forms such as bases for traffic lights. The forms are usually stand-alone units which do not require a machine for operation.
(See HQRL 083273 March 10, 1989 and NYRL B88647 August 18, 1997)

Mold (a.k.a. die) used in the production of automotive disc brake pads
(See NYRL 856876 October 24, 1990)

Dental Impression – The impression is in and of itself a mold as it will be used to make a dental mold. Articles of general use such as a mold are classified in their respective headings even though they may be used by a dentist.
(See NYRL 817484 January 16, 1996 and ENs to section XVIII, heading 90.18, HS, note II)

(Also see HQ 087328 September 26, 1990; NY 861238 March 18, 1991; NY 869319 December 23, 1991; NYRL A87892 October 17, 1996; NY B88647 August 18, 1997; NY C87923 May 29, 1998; NYRL E86595 September 24, 1999)

Molds for Rubber or Plastics – Subheadings 8480.71, HTSUS and 8480.79, HTSUS

Subheadings 8480.71.1000, HTSUS, and 8480.79.1000, HTSUS Molds for Shoe Machinery

In order to qualify for either one of these duty-free provisions, a mold must be used on a machine with features unique to a shoe machine. One has to distinguish between the physical characteristics of the machine on which the molds will be used from a general purpose molding machine. Shoe machinery features a last carrier mechanism which holds a last, i.e., a model of the foot upon which the shoe/boot is formed. When determining whether or not the machine qualifies as shoe machinery, one should consider the commercial/economic feasibility of changing the molds. With general purpose molding machines, the customary practice of the industry is to change molds frequently in order to produce a wide variety of articles. In this case, changing the molds is generally an inexpensive operation.

Subheading 8480.71.4000, HTSUS Molds for the manufacture of semiconductor devices

On December 13, 1996, the United States, Australia, Canada, Chinese Taipei, the European Communities, Hong Kong, Iceland, Indonesia, Japan, Korea, Norway, Singapore, Switzerland and Turkey signed the Information Technology Agreement ("ITA"). Presidential Proclamation 7011 (reflecting the provisions of the World Trade Organization Ministerial Declaration on Trade in Information Technology Products) dated July 1, 1997, contained the details necessary to implement the tariff concessions granted by this Agreement. Included in the scope of the products eligible under the ITA are molds used in the manufacture of semiconductor devices (i.e., diodes, transistors, and similar semiconductor products, or integrated circuits, of headings 8541, HTSUS, and 8542, HTSUS).

Subheading 8480.71.8020, HTSUS - Molds temporarily imported for testing, calibration, examination, repair or alteration; returned after being exported for testing, calibration, examination, repair or alteration

Effective January 1, 1997, this subheading was added to the HTSUS to address the problem of an overstatement of U.S. mold imports on the U.S. import statistics. Prior to the implementation of NAFTA, molds being continuously moved between countries (primarily between the United States and Canada) for purposes of testing, calibration, examination, repair or alteration were usually imported temporarily free of duty under bond ("TIB"). Once NAFTA was implemented, entries were being made under the regular HTSUS number, duty free if all NAFTA requirements were met. Counting the same mold multiple times resulted in a distortion of the trade statistics. The use of subheading 8480.71.8020, HTSUS, when appropriate, allows for the proper identification of these particular molds for statistical purposes. It eliminates the possibility of counting the same mold multiple times.

When classifying a mold of this type, subheading 9802.00.50, HTSUS, must also be taken into consideration. Subheading 9802.00.50, HTSUS, provides for articles returned to the U.S. after having been exported for repairs or alterations. Articles eligible for this provision are entitled to a partial duty exemption with duty assessed only upon the cost or value of the foreign repairs or alterations. This is in contrast to a mold classified in subheading 8480.71.8020, HTSUS, where duty is assessed on the full value of the mold, plus the cost of the repair or alteration.

In order to determine the proper classification, subheading 8480.71.8020, HTSUS, or subheading 9802.00.50/8480.71.8045, HTSUS, (or "60" depending upon whether injection or compression type), one has to determine whether the mold is "complete" or "incomplete" for its intended use. HQRL 957375 April 19, 1995 explains in detail how these terms are to be interpreted for purposes of headings 8480, HTSUS, and 9802, HTSUS. As stated in the cited ruling, "Subheading 9802.00.50, HTSUSUS, treatment is also precluded where the exported articles are incomplete for their intended use and the foreign processing operation is a necessary step in the preparation or manufacture of finished articles."

Example #1:
A mold is manufactured in Canada to the specifications of the U.S. customer. The Canadian manufacturer ships the completed mold to its U.S. customer for examination and testing. The U.S. customer finds the mold does not conform to his specifications and returns the mold to the Canadian manufacturer for calibration or alteration. After performing the requested work, the mold is again shipped to the U.S. customer for examination and testing. Subheading 8480.71.8020, HTSUS, applies as the mold in this case is not a finished article.

Each time it comes into the United States for examination and testing the mold is closer to being a finished good but it is still not complete. It will not be finished until it finally conforms to all the customer's specifications.

Example #2:
An injection mold becomes worn out due to repetitive use in the United States. The owner decides to return it to the original foreign manufacturer for repair. The repaired

mold is returned to the owner in the United States. Subheading 9802.00.50/8480.71.8045, HTSUS, applies.

A mold was complete when sent abroad and complete when returned to the United States. The repair operation did not result in a new or commercially different article nor change the character or use of the mold. The mold was merely restored to proper working order.

Subheadings 8480.71.8045, HTSUS
Example:
Molds/forms used in injection molding press machines to mold granules generated from a tire recycling operation into flooring tiles and flooring rolls.
(See NYRL 810729 June 14, 1995)

(Also see HQRL 951242 June 22, 1993; HQRL 962000 June 15, 1999; NYRL 816218 November 9, 1995; NYRL C85027 April 2, 1998, NYRL F84678 April 17, 2000)

Subheading 8480.71.8060, HTSUS
Compression type – a simple compression mold is usually comprised of two plates. With the plates apart, a crude-rubber compound is placed in the cavity. The two mold halves are put together and compressed in a hydraulic press. Molds of this type are used in the production of vehicle tires.

Subheading 8480.79.9010, HTSUS
Blow molds are used in the production of thin-walled, hollow articles such as bottles. Care should be taken in identifying the specific material being used in the process to ensure that the blow mold is used solely or principally with a rubber or plastics material. If the blow mold is used solely or principally with a glass material, the blow mold is classified in subheading 8480.50.0090, HTSUS.

Subheading 8480.79.9020, HTSUS
A bladder operated mold is so named because it incorporates either an air-inflated or a hot water-inflated bag. During the production of tires, the bag presses the tire against the mold.

Subheading 8480.79.9090, HTSUS
This subheading covers molds for rubber or plastics not listed in subheadings 8480.71.1000, HTSUS, through 8480.79.9020, HTSUS, inclusive.

Examples:
Rotational molds used in rotational molding process
Transfer molds used in the transfer molding process.

Parts of Molds and Other Related Articles

The most important rule to remember when classifying parts of molds is that **there is no provision for parts or accessories of molds under heading 8480, HTSUS,** even if the part is designed and dedicated for use solely with a particular mold. The language of heading 8480, HTSUS, is clear and implicit on this point. However, it should be noted that **this rule does not apply** to the ingot molds and continuous casting molds of heading 8454. The language of heading 8454, HTSUS, encompasses "parts of" as well as complete ingot and continuous casting molds.

Examples:

Chaplets–Classification Dependant Upon Machine In Which Mold Will Be Used
metal supports used in mold cavity to maintain the proper position of parts of the mold (e.g., internal core) that are not self-supporting.

Core for die casting machine from Japan - Subheading 8454.90.0030, HTSUS
core for die casting die (mold). When the molded article is removed from the die casting machine, it will have an opening that has the shape of the core.
(See NYRL F88310 June 23, 2000)

Die Inserts for Use in Pasta Molds – Subheading 8438.90.9015, HTSUS
used in the production of pasta shapes in pasta making machines.
(See NYRL E80147 April 21, 1999)

Hot Runner System – Subheading 8477.90.8510, HTSUS
internal component of a hot runner injection mold. The system consists of a series of heated channels which maintain the proper processing temperature for the molding material. Molten molding material exiting through the nozzle of the injection molding machine is conveyed through these channels into the mold's cavity(ies). A basic system consists of gates, heaters, manifolds, nozzles, temperature controllers and thermocouples. Depending upon the type of heating to be utilized (i.e., direct or indirect), other components, such as band heaters for direct heating, can be added.
(See NYRL 861890 April 19, 1991)

Stainless Steel Susmic Aramid Kevlar Fiber Woven Fabric – Heading 7326, HTSUS
used as an insulating material for molds in an automobile glass manufacturing line.
(See HQRL 962337 June 16, 1999)

Conclusion

Classification of goods is a complex task. By familiarizing oneself with the above basic guidelines, the reader will be able to make an informed classification determination when dealing with an importation of a mold, thus ensuring the proper assessment of duties and the accuracy of import statistics.

Additional Information

The U. S. Customs Service's home page on the Internet's World Wide Web, provides the trade community with current, relevant information regarding Customs operations and items of special interest. The site posts information -- which includes proposed regulations, news releases, Customs publications and notices, etc. -- that can be searched, read on-line, printed or downloaded to your personal computer. The web site was established as a trade-friendly mechanism to assist the importing and exporting community. The web site contains the most current electronic versions of, or links to:

- Customs Regulations and statutes
- Federal Register and public information notices
- The Customs Bulletin and Decisions
- Binding Rulings
- Publications including-
    - *Importing Into the U.S*.
    - other Informed Compliance Publications in the "*What Every Member of the Trade Community Should Know About:…"* series
    - *Customs Valuation Encyclopedia*
- Video Tape availability and ordering information
- Information for small businesses

The web site links to the home pages of many other agencies whose importing or exporting regulations Customs helps to enforce. The web site also links to the Customs Electronic Bulletin Board (CEBB), an older electronic system on which Customs notices and drafts were posted. Since December 1999, the CEBB has been only accessible through the web site. Finally, Customs web site contains a wealth of information of interest to a broader public than the trade community -- to international travelers, for example.

The Customs Service's web address is http://www.customs.gov.

The information provided in this publication is for general information purposes only. Recognizing that many complicated factors may be involved in customs issues, an importer may wish to obtain a ruling under Customs Regulations, 19 CFR Part 177, or obtain advice from an expert (such as a licensed customs broker, attorney or consultant) who specializes in Customs matters. Reliance solely on the general information in this pamphlet may not be considered reasonable care.

Additional information may be also be obtained from Customs ports of entry. Please consult your telephone directory for a Customs office near you. The listing will usually be found under U.S. Government, Treasury Department.

"Your Comments are Important"

The Small Business and Regulatory Enforcement Ombudsman and 10 regional Fairness Boards were established to receive comments from small businesses about federal agency enforcement activities and rate each agency's responsiveness to small business. If you wish to comment on the enforcement actions of U.S. Customs, call 1-888-REG-FAIR (1-888-734-3247).

REPORT SMUGGLING 1-800-BE-ALERT

Visit our Internet web site: http://www.customs.gov